**Precalculus**

**Notes 4.1**

1. **Angles**

The word “trigonometry” means measurement of triangles.

An angle is determined by rotating a ray about its endpoint.

An angle is in standard position when the vertex is on the origin and the initial side is on the positive x-axis.

Positive angle:

Negative angle:

Angles are labeled with Greek letters:

Alpha:

Beta:

Theta:

When 2 angles have the same initial and terminal sides they are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **Radian Measure**

Definition: 1 \_\_\_\_\_\_\_\_\_\_\_\_\_ is the measure of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that intercepts an arc that equals the length of a circle’s radius.

Let \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Remember:

In words:

Suppose . Consider

A complete revolution of the terminal side of an angle would be radians or

**Ex. 1:** Find coterminal angles.

1. Given Add/Subtract (a complete revolution) to obtain a coterminal .

There are an infinite number of coterminal angles.

1. Find a negative coterminal for by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Find a positive coterminal for by \_\_\_\_\_\_\_\_\_\_\_\_.

Review:

1. Complementary angles ⇒ whose sum is radians.
2. Supplementary ⇒ whose sum is radians.

**Ex. 2:** Find the complement and supplement of

1. **Degree Measure**

We measure angles by degrees or radians. Remember: radians

radians

So… radians

And… radian

**Ex. 3:** Convert from degrees to radians

**Ex. 4:** Convert from radians to degrees

1. rad.
2. rad.
3. rad.

**Ex. 5:** Converting to decimal degree form.

1. **Application**

**Ex. 5:** Finding arc length – p. 267

**Ex. 6:** Finding Linear Speed – p. 268